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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/516,479 | 03/01/2000 | Carson P. Edwards | GE04093 | 3361 |

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MOTOROLA, INC.
CORPORATE LAW DEPARTMENT - #56-238
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PHOENIX, AZ 85018

EXAMINER

DUONG, DUC T

ART UNIT PAPER NUMBER

2663

DATE MAILED: 05/18/2004

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/516,479

Applicant(s)

EDWARDS ET AL.

Examiner

Duc T. Duong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 February 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-10,13-15 and 17-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-10 and 15 is/are allowed.
- 6) ☒ Claim(s) 1,2,5-7,13,14 and 17-21 is/are rejected.
- 7) ☒ Claim(s) 3 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 5-7, 13, 14, and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Larsen et al (WO 96/19887).

Regarding to claim 1, Larsen discloses in a self-organizing network including a plurality of kindred nodes (Fig. 2) and at least one hub node 24-32 with a hub transmission frequency different that kindred transmission frequencies (page 40 lines 8-12; the different channels are interpret as a hub transmission frequency different that kindred transmission frequencies), a method of communicating a data packet from a source node to a destination node remote from the source node comprising the steps of transmitting a test packet from the source node to at least some of the plurality of kindred nodes including the destination node (Fig. 2 page 14 lines 10-12); determining a number of hops required to send the test packet from the source node to the destination node (page 16 lines 1-15); changing the transmission power of the source node to adjust the number of hops required to send the test packet from the source node to the destination node to an optimum number (page 21 lines 23-25 and page 22 lines 1-4); and transmitting the data packet from the source node to the destination node via the optimum number of hops (page 21 lines 21-23) including changing the transmission

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frequency from a kindred transmission frequency to a hub transmission frequency (page 38 lines 11-13; the switches or hop in frequency of the node/hub 24-32 read on the change of kindred transmission frequency to the hub transmission frequency).

Regarding to claim 2, Larsen discloses changing the transmission power includes increasing the transmission power in steps to adjust the number of hops to the optimum number (page 21 lines 21-25 and page 22 lines 1-4).

Regarding to claim 5, Larsen discloses determining a traffic load prior to transmitting the data packet from the source node to destination node (Fig. 3 page 17 lines 5-18) and performing the step of changing the transmission frequency when the traffic load is high (page 38 lines 24-26).

Regarding to claims 6 and 7, Larsen discloses assigning a priority to each data packet and performing the step of transmitting the data packet from the source node to the destination node only on higher priority data packets first (page 26 lines 2-7).

Regarding to claim 13, Larsen discloses in a self-organizing network including a plurality of kindred nodes (Fig. 2) and at least one hub node 24-32 with a hub transmission frequency different that kindred transmission frequencies (page 40 lines 8-12; the different channels are interpret as a hub transmission frequency different that kindred transmission frequencies), a method of communicating a data packet from a source node to a destination node remote from the source node comprising the steps of determining a traffic load prior to transmitting the data packet from the source node to destination node (Fig. 3 page 17 lines 5-18); providing a data packet to be transmitted to a destination node when the traffic load is high (page 19 lines 20-23); changing the

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transmission frequency from a kindred transmission frequency to a hub transmission frequency (Fig. 9 page 38 lines 11-13; the switches or hop in frequency of the node/hub 24-32 read on the change of kindred transmission frequency to the hub transmission frequency); and transmitting the data packet from the source node to the destination node via the hub node to reduce one of delay and hop count (page 6 lines 19-23).

Regarding to claim 14, Larsen discloses determining the number of hops required to send the data packet from the source node to the destination node (page 6 lines 10-15) and changing the transmission power of the source node to reduce the number of hops required to send the data packet from the source node to the destination node (page 21 lines 21-23).

Regarding to claim 21, Larsen discloses in a self-organizing network (Fig. 2) comprising a plurality of kindred nodes 24-32 with each kindred node including a control 10 for altering transmission power to change a transmission path and a kindred frequency operation (Fig. 1 page 21 lines 21-25 and page 22 lines 1-4); and wherein the network further comprising at least one hub node 24-32 with a hub transmission frequency different that kindred transmission frequencies (page 40 lines 8-12; the different channels is interpret as a hub transmission frequency different that kindred transmission frequencies), and each of the plurality of kindred nodes includes frequency changing controls 160 operating frequency from the kindred transmission frequency to the hub transmission frequency (Fig. 9 page 38 lines 11-13; the switches or hop in frequency of the node/hub 24-32 read on the change of kindred transmission frequency to the hub transmission frequency).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Larsen in view of Wornell et al (U.S. Patent 5,285,478).

Regarding to claim 17, Larsen discloses in a self-organizing network (Fig. 2) comprising a plurality of kindred nodes 24-32 with each kindred node including a control 10 for altering transmission power to change a transmission path (Fig. 1 page 21 lines 21-25 and page 22 lines 1-4).

Larsen fails to teach at least one of the kindred nodes includes a fractal modulator and at least one of the kindred nodes includes a fractal demodulator.

However, a communication system comprising a transmitter (node) with modulator 10 and a receiver (node) with demodulator 14 providing fractal modulation/demodulation (Fig. 1 col. 10 lines 40-52).

Thus, it would have been obvious to a person of ordinary skill in the art to include a fractal modulator/demodulator as taught by Wornell in Larsen's system for applications involving a channel in which the duration and bandwidth constraints of it are unknown or inaccessible. The motivation to do so would have been to provide an accurate transmission and reception of information for channels of unknown bandwidth and duration parameters.

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Regarding to claim 18, Larsen discloses each of the plurality of kindred nodes includes a decision engine 10 for adjusting operation of a source node of the plurality of kindred nodes in a way that allows the network to be self-organized, self-configuring, and self-healing (Fig. 1 page 20 lines 7-26).

Regarding to claim 19, Larsen discloses each data packet includes a priority information and the decision engine includes user policy controls for retransmitting only data packets above a selected priority (page 26 lines 2-7).

Regarding to claim 20, Larsen discloses the decision engine includes control for switching each of the plurality of kindred nodes between an end user node, a long range hub node, a medium range hub node, and a short range hub node (page 23 lines 13-24).

Allowable Subject Matter

5. Claim 3 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. Claims 8-10 and 15 are allowed.

Conclusion

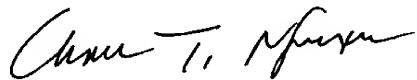
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Duc T. Duong whose telephone number is 703-605-5146. The examiner can normally be reached on M-Th (9:00 AM-6:00 PM).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau T. Nguyen can be reached on 703-308-5340. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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